Title (en)

DOWNHOLE INFLATABLE PACKER PUMP AND TESTING APPARATUS

Publication

EP 0266053 A3 19890419 (EN)

Application

EP 87308385 A 19870922

Priority

US 92425086 A 19861027

Abstract (en)

[origin: US4706746A] A downhole inflatable packer pump for use in a testing string. The pump includes an upper mandrel rotatably disposed in a case. The upper mandrel includes a pump cam with a cam slot thereon. A piston cavity is defined between the case and inner mandrel in which a single, sleeve-type piston is reciprocably disposed. A cam roller on the piston engages the cam slot, and as the inner mandrel rotates, the piston is reciprocated. A diaphragm sealingly separates the piston chamber from a pumping chamber. Inlet and outlet check valves with annular resilient lips allow fluid flow into the pumping chamber from the well annulus and out of the pumping chamber into an outlet chamber in communication with the lower portion of the testing string. The piston chamber is filled with a lubricating oil, and pumping action of the reciprocating pump piston causes movement of the oil which is transmitted to the pumping chamber through the diaphragm. An equalizing chamber allows equilization of hydrostatic pressures between the piston chamber and the well annulus. A pressure limited is included for limiting a pressure differential between the pumping chamber and the well annulus to a predetermined level. Fluid from the pumping chamber is not directly bypassed to the well annulus.

IPC 1-7

E21B 33/124; F04B 43/06

IPC 8 full level

E21B 33/124 (2006.01); **F04B 43/067** (2006.01)

CPC (source: EP US)

E21B 33/1246 (2013.01 - EP US); **F04B 43/067** (2013.01 - EP US)

Citation (search report)

- [A] US 4320800 A 19820323 - UPCHURCH JAMES M
- [A] US 4345648 A 19820824 - KUUS FELIX
- [AD] US 3926254 A 19751216 - EVANS ROBERT T, et al

Designated contracting state (EPC)

DE ES FR GB IT NL

DOCDB simple family (publication)

US 4706746 A 19871117; AU 591798 B2 19891214; AU 7742487 A 19880428; CA 1274721 A 19901002; DE 3782721 D1 19921224; DE 3782721 T2 19930513; EP 0266053 A2 19880504; EP 0266053 A3 19890419; EP 0266053 B1 19921119; SG 132692 G 19930312

DOCDB simple family (application)

US 92425086 A 19861027; AU 7742487 A 19870825; CA 547758 A 19870924; DE 3782721 T 19870922; EP 87308385 A 19870922; SG 132692 A 19921229